

=> file reg; d rn on 12; d rn on 13  
 FILE 'REGISTRY' ENTERED AT 15:45:43 ON 21 FEB 2003  
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Property values tagged with IC are from the NCI/NCIPI data file  
 provided by InfoChem.

STRUCTURE FILE UPDATES: 10 FEB 2003 HIGHEST EN 492991-99-3  
 DICTIONARY FILE UPDATES: 10 FEB 2003 HIGHEST EN 492991-99-3

TOCA INFORMATION NOW CURRENT THROUGH MAY 20, 2003

Please note that search-term pricing does apply when  
 conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP  
 PROPERTIES for more information. See STNote 37, Searching Properties  
 in the NCI Registry File, for complete details:  
<http://www.eas.org/ONLINE/STN/STNOTES/states7.pdf>

LC ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS  
 EN **123515-51-5** REGISTRY  
 EN Bactericidal/permeability-increasing protein (human precursor) (9CI) (CA  
 INDEX NAME)  
 OTHER NAME:  
 EN 1-194-Protein BPI (bactericidal/permeability-increasing) [132-alanine]  
 human  
 EN 15: EN: U060303137 SEQID: 15 unclaimed protein  
 EN 16: EN: U06030301 SEQID: 16 unclaimed protein  
 EN 1: EN: W00104324 SEQID: 1 unclaimed protein  
 EN 2: EN: W000180294 SEQID: 2 unclaimed protein  
 EN 3: EN: W001043144 SEQID: 3 unclaimed protein  
 EN 4: EN: W000039531 SEQID: 4 unclaimed protein  
 EN 5: EN: W000371149 SEQID: 5 unclaimed protein  
 EN 6: EN: W001006691 SEQID: 6 unclaimed protein  
 EN 7: EN: W001043440 SEQID: 7 unclaimed protein  
 EN 8: EN: W000960344 SEQID: 8 unclaimed protein  
 EN 9: EN: U06087116 SEQID: 9 unclaimed protein  
 EN 10: EN: W001043447 SEQID: 10 unclaimed protein  
 EN 11: EN: W001043448 SEQID: 11 unclaimed protein  
 EN 12: EN: U06137775 SEQID: 12 unclaimed protein  
 EN 13: EN: W001006771 SEQID: 13 unclaimed protein  
 EN 14: EN: W00003172 SEQID: 14 unclaimed protein  
 EN Bactericidal/permeability-increasing protein (human)  
 EN Bactericidal/permeability-increasing protein (human clone pING4322  
 precursor)  
 EN Bactericidal/permeability-increasing protein (human clone seqid1  
 precursor)  
 EN DNA (human bactericidal and permeability-increasing protein cDNA plus  
 flanks)  
 EN DNA (human protein BPI (bactericidal/permeability-increasing) cDNA plus  
 flanks)  
 EN Glycoprotein BPI (human precursor protein moiety reduced)  
 EN Glycoprotein BPI (human synthetic precursor)  
 EN Protein (human bactericidal permeability-increasing BPI precursor)

CN Protein (human bactericidal/permeability-increasing precursor)  
 CN Protein BPI (bactericidal/permeability-increasing) (human clone seqid1 precursor)  
 CN Protein BPI (bactericidal/permeability-increasing) (human clone pING1742 precursor)  
 CN Protein BPI (human bactericidal/permeability-increasing precursor)  
 CN Protein BPI (human bactericidal/permeability-increasing precursor deletion derivative)  
 CN Protein BPI (human bactericidal/permeability-increasing)  
 CN Protein BPI (human clone pING345) (bactericidal/permeability-increasing)  
 CN Protein BPI (438-valine) (human bactericidal/permeability-increasing precursor)

LS ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS

BN 162493-47-2 REGISTRY

CN DNA (human bactericidal/permeability-increasing protein (DNA plus flanks)  
 (901) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Deoxyribonucleic acid (human bactericidal/permeability-increasing protein messenger RNA-complimentary plus 5'- and 3'-flanking region fragment)

OTHER NAMES:

CN 1: PN: US6165187 SEQID: 3 uncloned DNA

== file caplus; a que 113; d que 114

FILE 'CAPLUS' ENTERED AT 10:40:18 ON 11 FEB 2003

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FILE COVERS 1967 - 21 Feb 2003 VOL 133 ISS 9

FILE LAST UPDATED: 20 Feb 2003 (2003-2-20/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

L1 1 SEA FILE=REGISTRY ABB=CN PLU=CN 1 3545-81-3 BN  
 L1 1 SEA FILE=REGISTRY ABB=CN PLU=CN 162493-47-2 BN  
 L4 52 SEA FILE=CAPLUS ABB=CN PLU=CN L2 OR L3  
 L1 4053 SEA FILE=CAPLUS ABB=CN PLU=CN BPI OR (BACTERICID? OR PERMEAB? CA) PROTEIN  
 L6 14276 SEA FILE=CAPLUS ABB=CN PLU=CN MENING?  
 L7 72 SEA FILE=CAPLUS ABB=CN PLU=CN L4 OR L5 AND L6  
 L4 39 SEA FILE=CAPLUS ABB=CN PLU=CN L7 AND PY=1996  
 L2 6 SEA FILE=CAPLUS ABB=CN PLU=CN L7 AND AY=1996  
 L10 9 SEA FILE=CAPLUS ABB=CN PLU=CN L7 AND PY<=1996

```

L11      43 SEA FILE=CASLUS ABB=CN PLU=CN L8 OR L9 OR L10
L12      9 SEA FILE=CASLUS ABB=CN PLU=CN L11 AND PHARMACI SC, SX

L3       1 SEA FILE=REGISTRY ABB=CN PLU=CN L2 OR L3 OR L4
L4       1 SEA FILE=REGISTRY ABB=CN PLU=CN L2 OR L3 OR L4
L5       51 SEA FILE=CASLUS ABB=CN PLU=CN L2 OR L3
L6       4039 SEA FILE=CASLUS ABB=CN PLU=CN BPI OR BACTERICID? OR
        PERMEAB? (FA) PROTEIN
L7       14276 SEA FILE=CASLUS ABB=CN PLU=CN MENINGI
L8       71 SEA FILE=CASLUS ABB=CN PLU=CN (L4 OR L5) AND L6
L9       31 SEA FILE=CASLUS ABB=CN PLU=CN L7 AND PY<=1996
L10      6 SEA FILE=CASLUS ABB=CN PLU=CN L7 AND PY<=1996
L11      5 SEA FILE=CASLUS ABB=CN PLU=CN L7 AND PY<=1996
L12      48 SEA FILE=CASLUS ABB=CN PLU=CN L8 OR L9 OR L10
L13      4 SEA FILE=CASLUS ABB=CN PLU=CN L11 AND PHARMACI SC, SX
L14      38 SEA FILE=CASLUS ABB=CN PLU=CN L11 OR L12
L15      1 SEA FILE=CASLUS ABB=CN PLU=CN L13 AND (BPI OR TOPOLOGY)/TI

```

= s 112 or 114

L39 13 L12 OR L14

= file medline; d que 11

FILE 'MEDLINE' ENTERED AT 16:40:31 ON 11 FEB 2003

FILE LAST UPDATED: 21 FEB 2003 (2003/02/21/UP). FILE COVERS 1974 TO DATE.

On June 9, 2002, MEDLINE was reloaded. See HELP ROAD for details.

MEDLINE thesauri in the CN, CT, and MN fields incorporate the MeSH 2003 vocabulary. See <http://www.nlm.nih.gov/mesh/summary.html> for a description of changes.

This file contains CAS Registry Numbers for easy and accurate substance identification.

```

L15      423 SEA FILE=MEDLINE ABB=CN PLU=CN BACTERICIDAL PERMEABILITY
        INCREASING PROTEIN CN OR BPI
L16      6184 SEA FILE=MEDLINE ABB=CN PLU=CN MENINGOCOCCAL INFECTIONS+NT/CT
L17      4696 SEA FILE=MEDLINE ABB=CN PLU=CN NEISSERIA MENINGITIDIS+NT/CT
L18      3 SEA FILE=MEDLINE ABB=CN PLU=CN L15 AND (L16 OR L17)
L19      0 SEA FILE=MEDLINE ABB=CN PLU=CN L15 AND PY<=1996

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= file embase; d que 126

FILE 'EMBASE' ENTERED AT 16:41:02 ON 11 FEB 2003

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FILE COVERS 1974 TO 20 FEB 2003 2003/02/20/ED

EMBASE has been reloaded. Enter HELP ROAD for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

L20 197 SEA FILE=EMBASE APP=CN PLU=CN BACTERICIDAL PERMEABILITY  
INCREASING PROTEIN/CT  
L21 412 SEA FILE=EMBASE APP=CN PLU=CN BPI  
L22 161 SEA FILE=EMBASE APP=CN PLU=CN MENINGOCOCCOSIS/CT  
L23 74 SEA FILE=EMBASE APP=CN PLU=CN EPIDEMIC MENINGITIS/CT  
L24 54 SEA FILE=EMBASE APP=CN PLU=CN NEisseria MENINGITIDIS/CT  
L25 SEA FILE=EMBASE APP=CN PLU=CN L20 OR L21) AND (L22 OR L23  
OR L24)  
L26 0 SEA FILE=EMBASE APP=CN PLU=CN L25 AND EYS=1996

=> file biosis; a ppe l21

FILE 'BIOSIS' ENTERED AT 10:41:02 ON 01 FEB 2003  
COPYRIGHT (C) 1997 BIOLOGICAL ABSTRACTS INC. 00

FILE COVERS 1960 TO DATE.

CAN REGISTRY INDEXES AND CHEMICAL NAMES -CNS- DERWENT  
FROM JANUARY 1960 TO DATE.

REMOVED LAST INDEX: 12 February 2003 20030212ED

L27 56 SEA FILE=BIOSIS APP=CN PLU=CN BPI  
L28 4161 SEA FILE=BIOSIS APP=CN PLU=CN MENINGO  
L29 10 SEA FILE=BIOSIS APP=CN PLU=CN L27 AND L28  
L31 2 SEA FILE=BIOSIS APP=CN PLU=CN L29 AND EYS=1996

=> file wpids; a ppe l28

FILE 'WPIDS' ENTERED AT 10:41:17 ON 01 FEB 2003  
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FILE LAST UPDATED: 12 FEB 2003 20030212ED  
MOST RECENT DERWENT UPDATE: 200312 20031212ED  
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1960 TO DATE

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2.- FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES,  
SEE <http://www.derwent.com/dwpi/updates/dwpi-act/index.html> <<<

3.- FOR A COPY OF THE DERWENT WORLD PATENTS INDEX SDI USER GUIDE,  
PLEASE VISIT:  
[http://www.sdi-international.de/training\\_center/patents/sdi\\_guide.pdf](http://www.sdi-international.de/training_center/patents/sdi_guide.pdf) <<<

4.- FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER  
GUIDES, PLEASE VISIT:  
[http://www.derwent.com/userguides/dwpi\\_guide.html](http://www.derwent.com/userguides/dwpi_guide.html) <<<

L32 21 SEA FILE=WPIDS APP=CN PLU=CN BACTERICID? OR PERMEAB? (3W)  
PROTEIN  
L33 1 SEA FILE=WPIDS APP=CN PLU=CN BPI? OR EBPI?  
L34 21 SEA FILE=WPIDS APP=CN PLU=CN MENING?

L25 6 SEA FILE=WPIUS ABB=ON PLU=DN (L32 OR L33) AND L34  
 L26 6 SEA FILE=WPIUS ABB=ON PLU=DN L35 NOT (FHM OR HAEMOP? OR  
 ANEMIA)/T1  
 L38 3 SEA FILE=WPIUS ABB=ON PLU=DN L36 AND PRY=1996

= dup rem 139 138 131

FILE 'CAPLUS' ENTERED AT 16:43:09 ON 21 FEB 2003  
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 COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'WPIUS' ENTERED AT 16:43:10 ON 21 FEB 2003  
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FILE 'BIOSIS' ENTERED AT 16:43:10 ON 21 FEB 2003  
 COPYRIGHT (C) 2003 BIOLOGICAL ABSTRACTS INT. R)  
 PROCESSING COMPLETED FOR L25  
 PROCESSING COMPLETED FOR L26  
 PROCESSING COMPLETED FOR L31

L40 15 DUP REM L25 L26 L31 (3 DUPLICATES REMOVED)  
 ANSWERS '1-13' FROM FILE CAPLUS  
 ANSWERS '14-15' FROM FILE BIOSIS

= d ibib ab 140 1-15

L40 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 1  
 ACCESSION NUMBER: 12161871 CAPLUS  
 DOCUMENT NUMBER: 137:26918  
 TITLE: Therapeutic uses of N-terminal **BPI** protein  
 products in ANCA-positive patients  
 INVENTOR(S): Carroll, Stephen Fitzhugh  
 PATENT ASSIGNEE(S): USA  
 SOURCE: U.S. Pat. Appl. Publ., 11 pp., Cont. of U.S. Ser. No.  
 08/342,981, abandoned.  
 CORDEN: USXNCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY AND NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 596110918	A1	20000809	US 1996-155245	19960222 ---
US 6440796	B2	20001119		

PRIORITY ABLEN. INFO.: US 1996-74265 B1 19961101 ---

AB Improved therapeutic uses for N-terminal **bactericidal/**  
**permeability-increasing (BPI) protein** products  
 are described in patents that have **BPI**-reactive anti-neutrophil  
 cytoplasmic antibodies. Antibodies reactive against **BPI** among  
 ANCA-pos. subjects suggests that these antibodies may interfere with the  
 beneficial activities of **BPI**. **BPI**-reactive  
 autoantibodies bind to **BPI** haloprotein but have very little  
 reactivity with N-terminal **BPI** products. The N-terminal  
**BPI** protein products can be used in patients suffering from  
 hemorrhagic trauma, infection, and inflammatory diseases.

L40 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 2  
 ACCESSION NUMBER: 1298:13146 CAPLUS  
 DOCUMENT NUMBER: 129:19052

TITLE: Therapeutic uses of BPI protein products in  
cystic fibrosis patients  
INVENTOR(S): Carroll, Stephen Fitznugh; Scannon, Patrick J.; Gavit,  
Patrick D.  
PATENT ASSIGNEE(S): Xoma Corporation, USA; Carroll, Stephen Fitznugh;  
Scannon, Patrick J.; Gavit, Patrick D.  
SOURCE: PCT Int. Appl., 43 pp.  
CODEN: PEXNDJ  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY APP. NUM. COUNT: 1  
PATENT INFORMATION:

[illegible]

AB Improved therapeutic uses and formulations for BPI (bactericidal permeability-increasing protein) products are described in cystic fibrosis patients.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

140 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 3

ACCESSION NUMBER: 1987:012-41 CAPIUS  
DOCUMENT NUMBER: 128:00118  
TITLE: Therapeutic uses of bactericidal/  
permeability-increasing (BPI  
protein products for human  
meningococemia

INVENTOR(S) : Giroir, Brett P.; Scarnon, Patrick J.  
 PATENT ASSIGNEE(S) : Xena Corporation, USA; Giroir, Brett P.; Scarnon, Patrick J.  
 SOURCE: ICT Int. Appl., 45 pp.  
 CODEN: EINDEX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY APP. NUM. COUNT: -  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WL 9742966	A1	19971129	WO 1997-038016	19970519
W: AL, AU, AT, AU, AS, BA, BB, BG, BE, BY, CA, CH, CN, CU, DE,				

OK, EE, ES, FI, GE, GR, HU, IL, IS, JP, KE, KG, KP, KR, KZ,  
 LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL,  
 PT, RO, RU, SD, SE, SG, SI, SK, TC, TH, TR, TT, UA, UG, US, UZ,  
 VN, AM, AN, BY, CA, CZ, DE, DK, DU, EE, EG, ES, FI, FR, GB,  
 GR, HE, IE, IT, LU, LI, NL, PT, SE, BE, BG, CH, CG, CI, CM, GA, GN,  
 ML, MR, NE, SN, TD, TG

AU 9125043 A1 19911005 AU 1991-3043 19970519 8--

AU 9125043 B2 19911005

EP 04144 A1 19900411 EP 1991-0444 19970519 8--

EP 04144 B1 19910113

E: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, FI

CN 1130001 A 19901114 CN 1991-1130 19970519 8--

JP 11111841 T2 19911114 JP 1991-1111 19970519 8--

AT 1991 E 19911114 AT 1991-0444 19970519 8--

ES 11111841 T3 19911114 ES 1991-0444 19970519 8--

US 5551184 A 19900411 US 1991-0444 19970519 8--

US 5551184 B1 19911005 US 1991-0444 19970519 8--

US 1991184114 A1 19910411 US 1991-0444 19970519 8--

PRIORITY APPIN. INFO.: US 1990-0444 A 19900519 8--

WO 1990-08010 W 19900809

US 1991-0444 A1 19900411

US 1996-0444 A1 19960411

US 1999-0444 A1 19990411

AB Methods and materials for the treatment of human **meningococemia**  
 are provided in which therapeutically effective amts. of **BPI**  
 protein products are administered.

L40 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001-07411 CAPLUS

DOCUMENT NUMBER: 19910411

TITLE: **LEP-BPI** fusion recombinant  
 endotoxin-neutralizing proteins with longer half-life  
 and without triggering undesirable immune response  
 INVENTOR(S): Scott, Ronald W.; Marra, Marian N.  
 PATENT ASSIGNEE(S): Inyte Pharmaceuticals, Inc., USA  
 SOURCE: U.S., 46 pp., Cont.-in-part of Appl. No.  
 08/14391 4709.

COGNO: UNEXAM

DOCUMENT TYPE: Patent  
 LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5551184	B1	19911005	US 1991-0444	19970519 8--
US 5551184	A	19910411	US 1991-0444	19970519 8--
EP 04144	A1	19900411	EP 1991-0444	19970519 8--
E: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE				
US 1111184	A	19911114	US 1991-1111	19970519 8--
WO 1111184	A1	19911114	WO 1991-US779	19910813 8--
W: AU, CA, JP, KR, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
US 570004	A	19900613	US 1991-0177	19930722 8--
WO 912504	A1	19911114	WO 1991-US479	19910411 8--
W: AU, CA, JP, US, IT				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
WO 9634873	A1	19961127	WO 1996-US6134	19960501 8--
W: AU, CA, JP				

EW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE  
 AU 9656358 A1 19961121 AU 1996-56353 19960501 ---  
 US 200146761 A1 20021010 US 1996-561430 20010518 ---  
 PRIORITY APPLN. INFO.:  
 US 1996-11432 B2 19960514 ---  
 US 1996-46466 A1 19961121 ---  
 US 1996-16116 B2 19960913 ---  
 US 1996-61311 A1 19961113 ---  
 WO 1996-03684 A1 19960813 ---  
 US 1996-31720 A1 19960724 ---  
 US 1996-16421 B2 19960411 ---  
 US 1996-16417 B2 19961113 ---  
 WO 1996-03674 A1 19960813 ---  
 EP 1996-90410 A1 19960514 ---  
 US 1996-41111 A1 19960501 ---  
 WO 1996-03613 W 19960501 ---

AB In general, the invention features a recombinant endotoxin-neutralizing polypeptide (RENP) characterized by (i) an amino acid sequence, (ii) an amino acid sequence and structure that facilitates selective and specific binding to lipopolysaccharide and (iii) once bound to the lipopolysaccharide, provides endotoxin-neutralizing activity. Preferably, the RENP is composed of an amino acid sequence similar to, but not identical to, an amino acid sequence of two mol. endotoxin-binding proteins, lipopolysaccharide binding protein (LBP) and bactericidal permeability-increasing (BPI), or both. Preferably, the RENP contains an LPS-binding domain derived from the amino acid sequence of BPI, LBP, or both. Preferably, the RENPs are covalently bound to a mol. which enhances the half-life of the polypeptide. For example, the half-life enhancing mol. can be an Ig fragment, a half-life extn. portion of LBP or LBP deriv., or polyethylene glycol. The RENPs of the invention can be used in pharmaceutical comps. for therapeutic and prophylactic regimens, as well as in various in vitro and in vivo diagnostic methods. An advantage of the present invention is that the endotoxin-neutralizing proteins have a half-life in serum which is enhanced relative to the half-life of naturally-occurring LPS-binding proteins, and bind LPS without triggering a significant, undesirable immune response. BPI and LI-197B20-486 were successfully expressed in the methylotrophic yeast *Pichia pastoris*. The results of the investigation of BPI efficacy in rats with either (a) hemorrhagic shock or (b) endotoxic shock show that (a) in rats with hemorrhagic shock, the mortality was decreased from 5/10 (50% control group) to 2/10 (20% BPI group) at 4 hr; (b) in rats with endotoxic shock, the 5-day mortality was significantly reduced ( $p=0.035$ ) by BPI treatment to 40%, as compared to 70% in the control group. Plasma LPS levels were at least partially neutralized at two hours (1.9.±-4.1 vs 10.1.±-4.1 ng/mL). Cytokine formation was concomitantly reduced in the BPI group as measured by plasma TNF levels at two hours (1.9.±-2.3 vs 11.3.±-6.0 ng/mL). Liver transaminases (GOT and GPT, whose elevation indicates hepatic dysfunction) and bilirubin still increased at eight hours; however, the increase was less with BPI. These data demonstrate that BPI has utility as a therapeutic agent against endotoxin-related disorders in hemorrhagic as well as endotoxic shock. FIG. 19 shows that endotoxin-neutralizing proteins such as BPI and LI-197(143->V) E200-456 (NE06-40) (NE06103) can also neutralize endotoxin-mediated TNF release in the lung. These results indicate that these proteins are effective when delivered directly into the lung and thus may be useful for treatment of pneumonias and other endotoxin-related disorders of the lung, such as ARDS.

REFERENCE COUNT: 75 THERE ARE 75 CITED REFERENCES AVAILABLE FOR THIS  
 SEQ ID. ALL CITATIONS AVAILABLE IN THE SEQ ID FORMAT

L40 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2003 ACS



ACCESSION NUMBER: 1997:26257 CAPLUS  
 DOCUMENT NUMBER: 126:42713  
 TITLE: Recombinant endotoxin-neutralizing proteins  
 INVENTOR(S): Scott, Randal W.; Narra, Marian N.  
 PATENT ASSIGNEE(S): Incyte Pharmaceuticals, Inc., USA  
 SOURCE: PCT Int. Appl., 126 pp.  
 CODEN: PIMXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 3  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 96-4-73	A1	1996110	WO 1996-US6134	19960501 <--
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 62-1117	B1	20010724	US 1999-481517	19990501 <--
AT 961388	A1	19961101	AT 1996-56059	19960501 <--
PRIORITY APPLIC. INFO.:				
			US 1996-481517	A 19960501 <--
			US 1999-11094	BA 19990214 <--
			US 1999-469696	AL 19990112 <--
			US 1999-167016	BA 19990113 <--
			US 1991-6-1501	A 19910405 <--
			WO 1991-03575	A 19910413 <--
			US 1992-905728	A 19920712 <--
			US 1996-56092	ES 19960430 <--
			US 1996-166717	BA 19960119 <--
			WO 1994-US470	A 19940409 <--
			WO 1996-US6134	W 19960501 <--

AB In general, the invention features a recombinant endotoxin-neutralizing polypeptide (RENPE) characterized by (i) an amino acid sequence, (ii) an amino acid sequence and structure that facilitates selective and specific binding to lipopolysaccharide and (iii) once bound to the lipopolysaccharide, provides endotoxin-neutralizing activity. Preferably, the RENPE contains an LPS-binding domain derived from the amino acid sequence of **BPI**, **LBP** or both. Preferably, the RENPE contains an LPS-binding domain derived from the amino acid sequence of **BPI**, **LBP** or both. Preferably, the RENPEs are covalently bound to a mol. which enhances the half-life of the polypeptide. The RENPEs of the invention can be used in pharmaceutical compns. for therapeutic and prophylactic regimens, as well as in various in vitro and in vivo diagnostic methods.

L49 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1996:54954\* CAPLUS  
 DOCUMENT NUMBER: 126:177457  
 TITLE: Improved therapeutic compositions comprising  
**bactericidal/permeability-increasing**  
**(BPI protein products**  
 INVENTOR(S): Lambert, Lewis H., Jr.  
 PATENT ASSIGNEE(S): Kima Corporation, USA  
 SOURCE: PCT Int. Appl., 82 pp.  
 CODEN: PIMXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9621436	A1	19960718	WO 1996-US1095	19960116 <--

W: AM, AT, AU, BB, BC, BP, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI,  
GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LA, LT, LU, LV, MD,  
MG, MN, MW, ME, ND, NE, NL, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ,  
TN, TT  
RW: KE, LS, MW, SD, SI, TJ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE,  
IT, LU, MC, NL, PL, SE, SF, BG, CF, CG, CI, CM, GA, GN, ML, MR,  
NE, SN, TD, TG

CA 2,103,40 AA 1,960,112 CA 1996-2211390 1,960,116 ---

AU 9,477,13 A1 1,960,112 AU 1996-47715 1,960,116 ---

AU 7,176,46 B2 2,100,310

EP 813,411 A1 1,960,112 EP 1996-903710 1,960,116 ---

E: AP, BE, CH, DE, DK, EE, FR, GB, GR, IT, LI, LN, NL, SE, MC, PT, IE

JP 1,111,165 T2 1,960,112 JP 1996-301393 1,960,116 ---

SP 1,353,000 A2 2,079,213 EP 1,000-20710 1,960,116 ---

E: AP, BE, CH, DE, DK, EE, FR, GB, GR, IT, LI, LN, NL, SE, MC, PT, IE

PRIORITY APPLN. INFO.:

US 1994-172104 A 1,960,116 ---

US 1994-180199 A 1,960,116 ---

EP 1996-903711 A3 1,960,116 ---

WO 1996-021095 W 1,960,116 ---

AB Improved therapeutic agents having enhanced antimicrobial activity comprising a **bactericidal permeability-increasing (BPI) protein** product and a **bactericidal**-activity enhancing polyoxyethylene block copolymer surfactant (poloxamer surfactant) or a bacterial and fungal growth-inhibiting enhancing poloxamer surfactant, with MGA, and methods for treating bacterial infection by administering such comps., alone or concurrently with antibiotics.

L49 ANSWER # OF 15 CAPLUS COPYRIGHT 2003 ACN

ACCESSION NUMBER: 1996:04601 CAPLUS

DOCUMENT NUMBER: 114:3124

TITLE: Characterization of the structural elements in lipid A required for binding of a recombinant fragment of **bactericidal/permeability-increasing protein rBPI23**. [Erratum to document cited in CAPLUS:31204]

AUTHOR(S): Gazzano-Santoro, Helene; Parent, James B.; Conlon, Paul J.; Kistler, Herbert G.; Tsai, Chao-Ming; Lill-Eichman, Deborah A.; Hollingsworth, Rawle I.

CORPORATE SOURCE: Sepsys Res. Dep., XOMA Corp., Berkeley, CA, 94710, USA

SOURCE: Infection and Immunity (1995), 63(12), 4967

CODEN: INFIBF; ISSN: 0019-9567

PUBLISHER: American Society for Microbiology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The errors were not reflected in the abstr. or the index entries.

L49 ANSWER # OF 15 CAPLUS COPYRIGHT 2003 ACN

ACCESSION NUMBER: 1996:04601 CAPLUS

DOCUMENT NUMBER: 114:3124

TITLE: Characterization of the structural elements in lipid A required for binding of a recombinant fragment of **bactericidal permeability-increasing protein rBPI23**

AUTHOR(S): Gazzano-Santoro, Helene; Parent, James B.; Conlon, Paul J.; Kistler, Herbert G.; Tsai, Chao-Ming; Lill-Eichman, Deborah A.; Hollingsworth, Rawle I.

CORPORATE SOURCE: Sepsys Research Department, XOMA Corporation, Berkeley, CA, 94710, USA

SOURCE: Infection and Immunity (1995), 63(6), 2311-8

CODEN: INFIBF; ISSN: 0019-9567

PUBLISHER: American Society for Microbiology  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Both human **bactericidal/permeability-increasing protein** (BPI) and a recombinant N-terminal fragment of BPI (rBPI23) have been shown to bind with high affinity to the lipid A region of lipopolysaccharide (LPS). In the present study, lipid A preps. derived from bacterial LPS as well as synthetic lipid A's and various lipid A analogs were used to det. the structural elements required for rBPI23 binding. rBPI23 bound in vitro to a variety of synthetic and natural lipid A preps. (both mono- and diphosphoryl forms), including lipid A's prepd. from *Escherichia coli* and *Salmonella*, *Neisseria*, and *Rhizobium* species. Binding does not require that the origin of neg. charge be phosphate, since rBPI23 bound with high affinity to lipid A's isolated from *Rhizobium* species that contain carboxylate (*Rhizobium trifolii*) or sulfate (*Rhizobium meliloti*) anionic groups and lack phosphate. Lipid A acyl chains are important, since rBPI23 did not bind to four synthetic variants of the .beta.(1-6)-linked D-glucosamine disaccharide lipid A head group, all devoid of acyl chains. rBPI23 also bound weakly to lipid E, a monosaccharide lipid precursor of LPS corresponding to the reducing half of lipid A. Lipid IVA, a precursor identical to *E. coli* lipid A except that it lacks the 2' and 3' acyl chains, was the simplest structure identified in this study that rBPI23 bound with high affinity. These results demonstrate that rBPI23 has a binding specificity for the lipid A region of LPS and binding involves both electrostatic and hydrophobic components.

L40 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995: 41159 CAPLUS  
DOCUMENT NUMBER: 11-17143  
TITLE: Effect of a recombinant N-terminal fragment of **bactericidal/permeability-increasing protein** (rBPI23) on cerebrospinal fluid inflammation induced by endotoxin.  
AUTHOR(S): Kartalija, Marinka; Kim, Young; White, Mark L.; Nau, Roland; Tureen, Jay H.; Tschier, Martin G.  
CORPORATE SOURCE: Infectious Diseases Laboratory, San Francisco General Hospital, San Francisco, CA, 94143, USA  
SOURCE: Journal of Infectious Diseases (1995), 171:4, 848-53  
CODEN: JIDIAQ; ISSN: 0950-2688  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Endotoxin triggers the afebrile inflammation of gram-neg. **meningitis**. This study examd. the ability of a recombinant N-terminal fragment of **bactericidal/permeability-increasing protein** (rBPI23) to block endotoxin-induced **meningitis** in rabbits. Intracisternal (i.v.) injection of 10-20 mg of **meningococcal** endotoxin induced high cerebrospinal fluid (CSF) concns. of tumor necrosis factor (TNF) and CSF pleocytosis and increased CSF lactate concns. Id administration of rBPI23 significantly reduced **meningococcal** endotoxin-induced TNF release into CSF (P < .005), lactate concns. (P < .001), and CSF white blood cell counts (P < .01). No such effect was obsd. in animals receiving i.v. rBPI23. Concns. of rBPI23 in CSF were high after ic administration but low or undetectable after systemic administration. Thus, high concns. of rBPI23 can effectively neutralize **meningococcal** endotoxin in CSF, but low CSF concns. after systemic administration currently limit its potential usefulness as adjunctive drug treatment in gram-neg. **meningitis**.

L40 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1294:559669 CASLUS  
 DOCUMENT NUMBER: 121:154634  
 TITLE: Recombinant human **bactericidal/permeability-increasing protein (rBPI23)** is a universal lipopolysaccharide-binding ligand  
 AUTHOR(S): Appelmeide, B. C.; An, Yun-Qing; Thijs, Bert G.; MacLennan, David M.; Graaff, Johannes  
 CORPORATE SOURCE: Dep. Med. Microbiology, Vrije Univ., Amsterdam, 1031 BT, Neth.  
 SOURCE: Infection and Immunity (1994), 62(5), 3564-7  
 CODEN: INFISE; ISSN: 1019-9547  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB A recombinant 23-kDa protein, rBPI23, derived from human **bactericidal/permeability-increasing protein (BPI)** possesses potent endotoxin-neutralizing abilities in vitro and in vivo. Binding of rBPI23 to these endotoxins (lipopolysaccharides [LPSs]) encountered clin. would be a prerequisite for efficacy in decreasing mortality among patients suffering from gram-neg. sepsis and shock, a disease state in which an etiol. role for LPS has been implicated. rBPI23 binds well to lipid A, to rough-mutant O-chain-deficient LPS (Es to Ea phenotypes), to lipid A-core covalently linked to the O chain, to LPSs from clin. relevant serotypes, and to bacterial cells of *Escherichia coli*, *Pseudomonas aeruginosa*, and *Klebsiella pneumoniae*, the species most often implicated in clin. gram-neg. sepsis and shock. Significant binding of rBPI23 to these antigens took place at rBPI23 domains. If 1-100 ng/mL (median, 16-32 ng/mL). Binding did not involve 3-deoxy-D-manno-octulosonate of the inner core. Detg. the exact epitope recognized by rBPI23 would require further studies with synthetic lipid A substructures. The demonstrated ability of rBPI23 to universally bind LPS provides a sound basis for further testing of its endotoxin-neutralizing abilities, including clin. trials.

141 ANSWER 11 OF 15 CASLUS COPYRIGHT 2004 ACS  
 ACCESSION NUMBER: 1294:479411 CASLUS  
 DOCUMENT NUMBER: 119:7461  
 TITLE: The IgG protein of *Neisseria meningitidis* is highly immunogenic in humans and induces bactericidal antibodies  
 AUTHOR(S): Eisenmajer, Elmer; Holby, E. Arne; Waage, Elisabeth; Eisenack, Parira; Achtman, Mark  
 CORPORATE SOURCE: Dep. Vaccine Bacteriol., Natl. Inst. Public Health, Oslo, Norway  
 SOURCE: Journal of Infectious Diseases (1993), 167(5), 1065-73  
 CODEN: JIDIAQ; ISSN: 0950-2688  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The IgG protein is expressed by the strain of *N. meningitidis* 644/74 used for prodn. of the Norwegian **meningococcal** group B outer membrane vesicle vaccine and is included in the final formulation of this vaccine. The IgG antibody response to SC in vaccinees, in systemic **meningococcal** disease, and carriers was measured using ELISAs with synthetic liposomes as antigen and by immunoblotting. Increased levels of IgG were found in paired sera from all 3 groups. The antibodies were bactericidal to **meningococci** of serogroups A and B that expressed large amts. of SC but not to **meningococci** expressing smaller amts. There was a linear correlation between bactericidal titer and units of IgG to SC.

L43 ANSWER 12 OF 15 CAPLUS COPYRIGHT 1993 ACS

ACCESSION NUMBER: 1992:519:13 CAPLUS

DOCUMENT NUMBER: 117:119911

TITLE: Cloning of *Neisseria meningitidis* protein P64k gene and vaccines containing the protein

INVENTOR(S): Silva Rodriguez, Ricardo; Nelson Houssein Sosa, Manuel; Guillen Nieto, Gerardo; Herrera Martinez, Luis Saturnino; Fernandez Mas, Julio Raul; Novoa Perez, Lidia Ines; Morales Grillo, Juan; Mirera Cordova, Vivian; Gonzalez Blanco, Sonia; et al.

PATENT ASSIGNEE(S): Centro de Ingenieria Genetica y Biotecnologia, Cuba

SOURCE: Eur. Pat. Appl., 31 pp.

CODEN: EPXK1W

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY APL. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 414111	A1	19910311	EP 1991-012111	19910306 ---
EP 414113	A1	19910311		
EP 414115	B1	19910311		
FI 414129	A	19910311	FI 1991-41129	19910303 ---
IN 199100	A	19910311	IN 1991-199100	19910304 ---
CA 2040049	AA	19910311	CA 1991-094049	19910303 ---
AU 414163	A1	19910311	AU 1991-0304	19910303 ---
AU 414167	B1	19910311		
US 514084	A	19910311	US 1991-0304	19910303 ---
AT 414173	B	19910311	AT 1991-0304	19910306 ---
ES 414185	T3	19910311	ES 1991-0304	19910306 ---
RU 414185	C1	19910311	RU 1991-0304	19910306 ---
JP 414179	A1	19910311	JP 1991-0304	19910307 ---
JP 414187	B1	19910311		

PRIORITY APPL. INFO.: CU 1991-145 A 19900907 ---

AB The *N. meningitidis* P64k protein gene is cloned. The gene was cloned and expressed in *Escherichia coli*. It was produced to the extent of 10% of the total cellular protein. Monoclonal antibodies to this protein had significant bactericidal titers against other *N. meningitidis* serogroups, serotypes, and subtypes. Other vaccines were prepared, i.e. a protein contg. the variable epitopes of the *N. meningitidis* P1.15 protein fused to P64k, an *Haemophilus influenzae* polysaccharide-P64k conjugate, and a bivalent vaccine contg. hepatitis B surface antigen and P64k. Segments of P64k had significant sequence similarity to *E. coli* acetyltransferase and lipamide dehydrogenase.

L41 ANSWER 13 OF 15 CAPLUS COPYRIGHT 1993 ACS

ACCESSION NUMBER: 1992:619:11 CAPLUS

DOCUMENT NUMBER: 117:119911

TITLE: The class 1 outer membrane protein of *Neisseria meningitidis*: prediction of topology and construction of a multivalent vaccine strain

AUTHOR(S): Van der Ley, P.; Poolman, J. T.

CORPORATE SOURCE: Natl. Inst. Public Health Environ. Prot., Bilthoven, Neth.

SOURCE: *Neisseriae* 1990, Proc. Int. Pathog. *Neisseria* Conf., 7th 1991, Meeting Date 1990, 295-300.

Editor(s): Achtman, Mark. de Gruyter: Berlin, Germany.

CODEN: S-FNAF

DOCUMENT TYPE: Conference

LANGUAGE: English

AB In order to assess the role of class 1 **protein** in inducing **bactericidal** antibodies, mice were immunized with outer membrane vesicles (OMV) preps. from a set of isogenic derivs. of strain H44/76. Mutational removal of class 1 protein had no effect on the bactericidal titer, whereas removal of class 1 protein resulted in a strong strong reduction. None of the strains induced bactericidal antibodies against the heterologous strain 1996; however, the addn. of only the class 1 gene from that strain to H44/76 resulted in a bactericidal titer almost as high as that obtained with 1996 itself. These results clearly demonstrate the dominant role of class 1 protein in the induction of bactericidal antibodies with OMV preps., and also indicate that a multivalent vaccine based on different subtypes of this protein should be feasible.

L49 ANSWER 14 OF 15 BIOSIS COPYRIGHT 1996 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1996:461:40 BIOSIS

DOCUMENT NUMBER: PREV199609196502

TITLE: Issues in the adjunct therapy of severe sepsis.

AUTHOR(S): Verhaegh, Jan (1); Huisman, Willem M. N.; Frasa, Helmut; Haeupelmaier, Andy L. H.

CORPORATE SOURCE: (1) Bijman-Winkler Inst. Med. and Clinical Microbiol., Division Infectious Diseases, Univ. Hosp., Heidelbergplaan 111, 3584 XD Utrecht Netherlands

SOURCE: Journal of Antimicrobial Chemotherapy, (1996) Vol. 37, No. 2, pp. 107-117.  
ISSN: 0950-4230.

DOCUMENT TYPE: General Review

LANGUAGE: English

AB Until recently the concept of immunomodulation in patients with severe sepsis (formerly called sepsis syndrome or septic shock) appeared very promising. Research has focused on the possible therapeutic potential of interfering with cytokine pathways, either by preventing the induction of cytokines, such as TNF-alpha, by neutralization of lipopolysaccharide (LPS), or through the use of agents that attenuate cytokine action. Nowadays research on protein or protein constructs with antibacterial activities such as bacterial permeability increasing protein (BPI), platelet activating factor receptor antagonists, nitric oxide and cyclooxygenase inhibitors, are still being followed. In large clinical trials monoclonal antibodies against core glycolipid (E5, HA1A) were shown to be at best of only marginal benefit, and in some trials results were ineffective. Also, the results with IL-1ra, although initially heralded with high expectation, were at the end disappointing and the trials discontinued. Two large trials with monoclonal antibodies against TNF showed some effect in subcategories of patients; a third trial is on its way. Other phase I, II studies include those of soluble TNF receptors and **BPI**. The area of immunomodulation has now become an area of more realism and the results of early trials has forced investigators to go back to the drawing board and to re-investigate the whole concept of immunotherapy and human pathophysiology.

L49 ANSWER 15 OF 15 BIOSIS COPYRIGHT 1996 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1996:461:71 BIOSIS

DOCUMENT NUMBER: PREV199609196502

TITLE: Protection of bovine brain endothelial cell (BBEC) injury from endotoxins: Role of bactericidal/permeability increasing protein (BPI) and anti-lipid A monoclonal antibody (MAb).

AUTHOR(S): Arditi, Michele; Shen, Jin; Kim, Kwang Sik

CORPORATE SOURCE: Childrens Hosp. Los Angeles, Univ. Southern Calif. Sch. Med., Los Angeles, CA USA

SOURCE: Pediatric Research, (1993) Vol. 33, No. 4 PART 2, pp. 161A.  
Meeting Info.: 103rd Annual Meeting of the American  
Pediatric Society and 62nd Annual Meeting of the Society  
for Pediatric Research Washington, D.C., USA May 3-6, 1993  
ISSN: 0031-3998.

DOCUMENT TYPE: Conference

LANGUAGE: English

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